IN THE CLAIMS

Please amend the claims as follows:

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Currently Amended) A method for detecting DNA, comprising:

preparing a chip for detecting DNA, wherein a double strand formed by hybridization of signaling DNA and probe DNA is fixed to electrodes, and the signaling DNA and the probe DNA are complementary to each other and either of the DNAs is also complementary to a base sequence of a target DNA, wherein the complementarity between base sequences of the signaling DNA and the target DNA is higher than between base sequences of the probe DNA and the signaling DNA ~~and the complementarities between the target DNA and the signaling DNA and the probe DNA are different~~, wherein the signaling DNA is labeled with an electrochemically active compound;

deriving competitive reaction among the probe DNA, the signaling DNA, and the target DNA by putting a solution of the target DNA to the chip for detecting DNA; and detecting amount and type of the target DNA by measuring a change of the electrochemical signal of the signaling DNA, in terms of current between the electrodes, before and after the competitive reaction.

10. (Original) The method for detecting DNA as claimed in claim 9, in said step for deriving competitive reaction, heating electrode of the chip near to the melting temperature of a double strand formed by the signaling DNA and the probe DNA and cooling is repeated.

11. (Original) The method for detecting DNA as claimed in claim 9, wherein the amount of the target DNA is quantified by measuring change of electrochemical signal before and after the competitive reaction of the signaling DNA.

12. (Original) The method for detecting DNA as claimed in claim 9, wherein the type of the target DNA is determined by performing competitive reaction between a double strand and an unknown target DNA and measuring electrochemical signal produced from the competitive reaction, on a chip for DNA detection having electrode array of at least one electrode formed by fixing several double strands of the probe DNAs and the signaling DNAs corresponding to several types of expected base sequence of target DNAs.

13. (Original) The method for detecting DNA as claimed in claim 9, wherein multiple DNA detection is performed by using the chip for detecting DNA that is formed by fixing at least two double strands of DNAs produced from at least two different probe DNAs and signaling DNAs corresponding to the probe DNAs to each electrode of an electrode array having at least two electrodes arranged.